Conference Track Concept
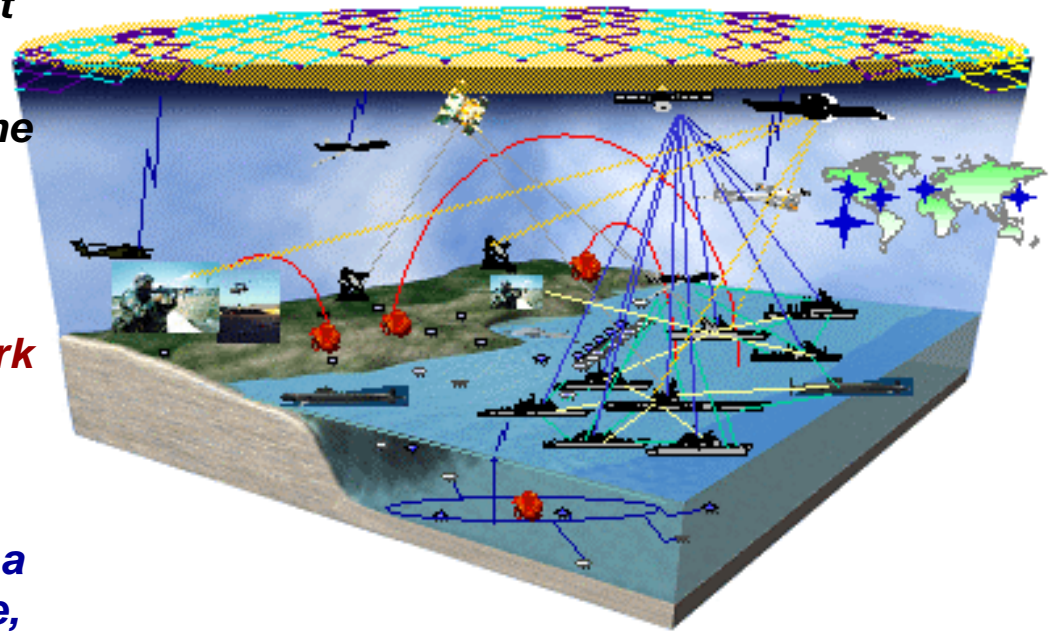
FORCEnet Review
Synchronization Opportunities

Network Centric Warfare Is the Theory

Net-centric Operations Is the Concept

FORCEnet Is the Process of Making the Theory and Concept a Reality

"FORCEnet Is the Operational Construct and Architectural Framework for Naval Warfare in the Information Age Which Integrates Warriors, Sensors, Networks, Command and Control, Platforms and Weapons Into a Networked, Distributed Combat Force, Scalable Across the Spectrum of Conflict From Seabed to Space and Sea to Land."*

*CNO's Strategic Study Group XXI definition from 22 July 02 CNO Briefing

SITUATIONAL AWARENESS

- TOTAL BATTLESPACE AWARENESS
- —DYNAMIC REAL-TIME INTELLIGENCE
- SPACE ACCESS TO ALL SATELLITE DATA AT UNIT LEVEL.
- INTELLIGENCE UPDATES REAL TIME ON AREA OF INTEREST"
  - Location of all ships, planes, subs (Friendly, neutral, enemy)
  - the real COP
    - MINE WARFARE INFO. PASSED DIRECTLY TO SHIP FROM DEPLOYED MMS UUV/UDT SUPPORT
    - SIAP

QUALITY OF LIFE

CONCERT TICKETS!

- FUTURE PORT VISIT REQ. PASSED DIRECTLY TO HUSBANDING AGENT.
- PHONE • e-mail • Web
- PROVIDE QOL SERVICES TO CREW
  - Education
  - Entertainment
  - Personal Business
  - Medical
- Petty Officer completes Moving arrangements for Family while Deployed.
- CO UPDATES HIS CREW'S FAMILY MEMBERS AT HOME W/ "LIVE" TOWN HALL.

- Communicates Real-time with Wife concerning Family Issues.
- LT Jones Participates in On-line training w/his University Class by VTC.

- SAILOR PROFESSIONAL DEVELOPMENT & EDUCATION
  - "Virtual" College Training!! Real-time! On-line!
- Sailor marries Girlfriend over VTC while deployed.

COMMUNICATES Petty Officer completes "Real-time" College Degree! DISTANCE LEARNING

A DAY IN THE LIFE of FORCEnet

SENSING & NETWORKING
- METOC
- NETTED SENSORS W/SHORE BASED ISR
- NETWORK DESIGNED SPECIFIC TO MISSION, AT HAND — FOR "DOCTRINE STATEMENTS" AND NETWORK OBJECT DESIGN BASED ON OPERATIONAL CONCEPT.
- SENSOR INFO PASSED FROM A SUPPORTING SUBMARINE DOING ASW via UNDERWATER COMMUNICATIONS.
- CONTROL OF UCAV & LOITERING MUNITIONS
- CONTROL OF UAV TO ENABLE COMMS RELAY TO MC SUPPORT ASHORE.
- CONTROL OF PERSISTENT SENSORS OF UNATTENDED SENSORS.

- RADAR FREQS AUTOMATICALLY MODIFIED WHEN IN INTERFERENCE W/OTHER SHIPS.
- REAL TIME ENVIRONMENTAL SENSING/UPDATE
  - AIR
  - SURFACE
  - UNDER WATER
  - OVERLAND
- DISTRIBUTED SENSORS FOR "IN-SITU" BATTLE SPACE AWARENESS
  - UAV
  - UUV
  - USV
  - UGS
- LT TAKES CONTROL OF UCAV LAUNCHED FROM CVN and FLIES IT ON COMBAT MISSION. CVN TAKES CONTROL FOR LANDING.
- RADAR SWEEP CORRELATED TO OTHER SHIPS IN AIR TO SHOW REAL TIME COVERAGE TO ALL & FLEET CDR.

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- SIAP

COMBAT SYSTEMS
- COMPOSE COMBAT IDENTIFICATION
- POWER PROJECTION ASHORE
- ORDINANCE CONTROL AND EXECUTION
- LT. JONES FIRES HIS SM-2 MISSILE AT A TARGET DESIGNATED BY ARMY PATRIOT BATTERY OVER HORIZON

- INTEGRATED FIRE CONTROL
- JDC TRACKING ALL CONTACTS W/WEAPONS REACH VIA CEC, FC TRACK DATA ON ALL.
- AFTER COMPLETING A FIRE MISSION — A ORDER FOR INVENTORY REPLACEMENT IS AUTOMATICALLY PLACED TO SUPPLIER
- MARINE ON BEACH REQUESTS FIRE ON TARGET, INDICATES LOCATION OF TARGET & ID ON FORCEnet DEVICE. SHIP RESPONDS W/FIRE.

LOGISTICS
- MS "ISSUE" RELAYED TO TAFS FOR NEXT ALONGSIDE AT TIME OF ISSUE.
- AUTOMATIC LOGISTICS PROGRAM NOTES EXPANDED AMMUNITION & STARTS PROCESS OF RE ORDERING RE-SUPPLY OF SHIP'S AMMUNITION
- SK3 SCANS RECEIPT OF PARTS FROM RECENT UNREP/ LOG. REP. UPDATING SPCC DATABASES.
- AUTOMATED JUST-IN-TIME LOGISTICS
- Mission & Campaign WAR GAMING
- MISSION PLANNING AND TOOLS!

INFORMATION OPERATIONS
- PROVIDE IW INFO. EFFECTS
- RED IO PLAN DEV. WITH NON-KINETIC OPTIONS (UNIT/ TACTICAL LEVEL)

CONCERT TICKETS!

TRAINING AND EDUCATION
- DISTANCE SUPPORT & TRAINING
- FC2 COMPLETES FINAL COURSE IN MCSE CURRICULUM TAKES TEST, IMMEDIATE FEEDBACK SERVICE RECORDS CERT.
- FIRST PhD AWARDED! to DEPLOYED SAILOR via FORCEnet enabled VIRTUAL GRADUATE SCHOOL.

NAVIGATION
- SAFE NAVIGATION
- NAVIGATION
  - Voyage Planning
  - Voyage Execution
- GPS ship track to continuous Launch Plan Updates

SHORE CONTEXT
- CONUS
- FORCEnet SHORE
- REMOTE MAINTENANCE PERFORMED ON ONBOARD d BASE BY SYSCEN
- ITZ GOTTAHAVIT ORDERS NEW CIRCUIT BOARD VIA PDA AFTER BEING NOTIFIED VIA PDA OF DEGRADING CKT ON THE BOARD.

QUALITY OF LIFE
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- PROVIDE QOL SERVICES TO CREW
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COMMAND & CONTROL
- COALITION INFORMATION EXCHANGE
- NODAL
- COLLABS
- JOINT INTEROPERABLE INFO. SHARING
- RECOMMENDED COURSE OF ACTION DECISION SUPPORT.
- TAILORABLE INFO. VISUALIZATION FOR DECISION MAKERS.
- MOBILE INTRA-SHIP COMMS. & DATA ACCESS
- SECURE & PROTECTED INFORMATION SHARING
- AUTOMATED NETWORK/ COMMS CONFIGURATION
- CONTINUOUS COLLAB. WITH CSG/ESG PLATFORMS AND REACHBACK to CONUS CTRS. OF EXCELLENCE
  - Mission Planning
  - Adaptable LOA's
- REACH BACK FOR SYSTEMS OF SYSTEMS NODAL ANALYSIS OF ENEMY FOR MISSION ANALYSIS (ONA)
- 3D VTC WITH COMMANDERS TO DISCUSS "The Plan", CDR's Intent.

LANGUAGE TRANSLATION
ROBUST, FAULT TOLERANT COMMUNICATIONS
COMMAND & CONTROL OF FORCES
COALITION INFORMATION EXCHANGE

COMMUNICATES
Petty Officer completes "Real-time" College Degree!
DISTANCE LEARNING
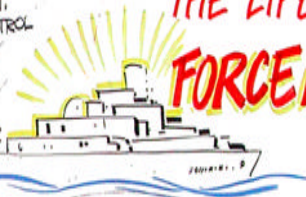
INNOVATION & EXPERIMENTATION
- FORCEnet/Experimentation Grid enables rapid communication & COLLABORATION But/Shipboard Personnel and Shore/based FORCEnet, ONR, NPS, SPAWAR Players.

MEDICAL
- TRAUMA VICTIM'S LIFE SAVED THROUGH FORCEnet ENABLED MEDICAL CONSULTATION SYSTEM.
- TELE-MEDICINE

Communicates Real time with Wife concerning Family Issues.

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"Virtual" College Training!!
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OPERATIONAL MISSION PLANNING
- Mission Rehearsal via Distributed Scenario to CSG/ESG that provide SIM/STIM for all Sensors with Interactive Opposition Forces.
- DISTRIBUTED TEAM & INDIVIDUAL TRAINING FOR A SINGLE SYSTEM FOR SYSTEMS PREPPING FOR MISSION.
- Mission Planning Sw with Joint Capability objects which can be shared, evaluated and collaborated with for COA Development.
- Composable Planning tool used by UN for coordination of HUMANITARIAN RELIEF INTERVENTION

- ## General Sessions
  - Conceptual/Framing/Guidance Briefs

- ## Tracks
  - "Smaller Groups" (200!)
  - Interactive Presentations – structured *large-scale working sessions* are the intent
  - FORCEnet CHENG-developed
  - *This is the **First** Government-run FORCEnet Engineering Conference*
    - Comments are welcome
    - Forms are provided

- Day 2 covers "Domains" – Business IT, Comms/Networks, etc
  - Allows each Domain to cover issues within their "family" of PM's, Engineers, Resource Sponsors, Associated Industry Reps, Others
- Day 3 covers "Across FORCEnet Processes and Products" – Architecture to Implementation
  - Allows Domains to interact with Process and Product providers to allow for self-synchronization

- ISR/IO: NETWARCOM Development of new OVs for ISR and IO

- ISR/IO: The Vision for DCGS-N and DCO (Distributed Cryptologic Operations)

- Architecture: How the new OVs are being incorporated into the A&S; (HSI) how Warfighter was included

- CMM SOA: What that means and how those programs are implementing

- Architecture: how *Enterprise* level services will support

- Business IT will introduce the domain discussion and begin formulation of the way ahead based on existing deliverables and defined in architectural terms.

- Architectural/HSI discussions will further detail the Service Oriented Architectural approaches and will show the deliverables that define the way ahead for FORCEnet as well as how a business process (HSI) used an architectural approach to define a way ahead

- **COMMS/Networks:**
  - Multi-path Survivable Networks
  - Converged Voice, Video and Data
  - Dynamic BW Allocation
  - Distributed Services that allow ubiquitous publish and subscribe capability
  - Enterprise Network Architecture

- **Experimentation and Demonstrations**
  - Trident Warrior 05
    - Networks Initiative
  - JRAE

- **Assessments**
  - Comms and Networks Survivability

- **Architecture**
  - Service Oriented Architecture Views
  - Managing Services across Enterprise-level

- **C2: Current/Future OPS**
  - Track management
  - Distributed Services
  - Visualization

- **C2: Future Engineering and Technology**
  - SOA
  - Security

- Architecture: The Foundation for Fn and Moving from Systems to Services
  - What does it look like
  - How can it be used

- Human Systems
  - How to design those capabilities such that the data/knowledge is useful to the Warfighter in the context of the mission
  - How do we measure value to the warfighter

- Engineering Best Practices in a SOA Environment

- Assessments
  - How will the new capabilities improve getting more bombs on target/Role of the Human

- **C2: Navy C2 Program Office**
  - Roadmap
  - Gaps
  - FORCEnet Capability Levels

- **Architectures**
  - Roadmaps

- **Experimentation and Demonstrations**
  - Analysis, Gaps and Prototyping

- **FORCEnet Toolset**
  - Implementation Tools

- Combat Systems: Open Architecture Track Manager / Joint Track Manager
  - Use of FORCEnet Strategies in Combat Systems
- Combat Systems: Realizing FORCEnet on DD(X) and Future Weapons System

- Architecture: The Foundation for Fn and Moving from Systems to Services
  - What does it look like
  - How can it be used at the Enterprise Level
- Human Systems
  - How to execute those capabilities such that the data/knowledge is human friendly, supports in operational environments and provides value
- Engineering Best Practices in a SOA Environment

- Attend
- See if the topics link as advertised
- Make this better for November 15-17
  - Constraint: Size *will* remain about the same – maybe slightly larger
  - Structure: Enough Tracks? Too Many? Tues-Thurs OK? More time needed? Mon? ½ day Fri?
  - Content: Right Material? What was missed? What's not needed?
  - Attendees: Who should have been here that you didn't see?
  - Working groups between conferences?

Feedback Forms